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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,951	11/27/2001	Richard C. Ruby	10003263-1	2432

7590 01/24/2003  
AGILENT TECHNOLOGIES, INC.  
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EXAMINER

BUDD, MARK OSBORNE

ART UNIT PAPER NUMBER

2834

DATE MAILED: 01/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

996 951

Applicant(s)

Ruby et al

Examiner

M. Budd

Group Art Unit

2834

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-20 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-20 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 2(11-29-01) ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other \_\_\_\_\_

Office Action Summary

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5 and 7 rejected under 35 U.S.C. 102(a) as being anticipated by bottom.

Bottom teaches adjusting the resonant frequency of a piezoelectric resonator by oxidizing an aluminum electrode.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over bottom.

As noted above bottom teaches the basic method of frequency adjusting. However, Bottom does not explicitly use a RTA and doesn't adjust a piezo element located on a Bragg resonator. The combination of a piezo element and Bragg resonator is well known per se ( official notice taken) as is the existence and use of an RTA. To apply bottom's process to any specific, known piezo device that needed frequency adjustment would have been obvious to one of ordinary skill in the art. Likewise, to select an RTA for its known use and benefits would have been within the skill expected of the routineer.

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Claims 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ella, Krishnaswamy or Ylilammi in view of Bottom.

Each of Ella, Ylilammi and Krishnaswamy teach the FBAR structure is well known per se. They are not explicit as to how to achieve the final frequency adjustments. Bottom specifically teaches oxidization of an electrode is an efficient and cost effective way to adjust the frequency of a piezoelectric. For at least these reasons it would have been obvious to one of ordinary skill in the art to oxidize an exposed electrode of Krishnaswamy, Ylilammi or Ella to adjust the frequency of the piezo element in the FBARS.

Further cited of interest are Zimnichi, Larson, (820) and (229) and Ruby (237), (954) and (597).

Budd/at

01/21/03

  
MARK G. BUDD  
PRIMARY EXAMINER  
ART UNIT 212